

WHAT IS CLAIMED IS:

1. A disc roll comprising:

a plurality of annular disc members each defining a hole and having a peripheral surface; and

a rotary shaft fitted into the holes of said annular disc members by insertion, whereby the peripheral surfaces of said disc members serve as a conveying surface of the disc roll,

wherein said disc members have a compression deformation rate of 0.05 to 0.3 mm under a load of 10 kgf/cm.

2. The disc roll according to claim 1, wherein said disc members contain an inorganic fiber in an amount of 20 to 40% by weight based on the total weight of said disc members and have voids of 30 to 70% by volume.

3. The disc roll according to claim 2, wherein said disc members contain mica in an amount of 20 to 50% by weight based on the total weight of said disc members.

4. A method for producing a disc roll, comprising the steps of:

forming into a plate form a slurry raw material containing an inorganic fiber in an amount of 20 to 40% by weight to obtain a disc member base material;

stamping out a plurality of annular disc members each defining a hole and having a peripheral surface, from said disc member base material; and

fitting said plurality of annular disc members on a rotary shaft by insertion through the holes and fixing said disc members thereon to obtain a disc roll.

5. The method according to claim 4, wherein said formation of the disc member base material is conducted by a paper-making process.

6. The method according to claim 4, wherein said slurry raw material contains in an amount of 3 to 15% by weight a material which is burnt off by heat applied at the time of burning or upon use.

7. A plate-shaped disc member base material, having a compression deformation rate of 0.05 to 0.3 mm under a load of 10 kgf/cm.

8. The disc member base material according to claim 7, containing an inorganic fiber in an amount of 20 to 40%

by weight based on the weight of said disc member base material and have voids of 30 to 70% by volume.

9. The disc member base material according to claim 7, containing mica in an amount of 20 to 50% by weight based on the weight of said disc member base material.

10. A disc roll comprising:

a plurality of annular disc members each defining a hole and having a peripheral surface; and

a rotary shaft fitted into the holes of said annular disc members by insertion, whereby the peripheral surfaces of said disc members serve as a conveying surface of the disc roll,

wherein said disc members comprise an inorganic fiber, mica and a clay having a content of particle components that have a particle size of 5 μm or larger of not higher than 30% by weight based on the weight of the clay.

11. The disc roll according to claim 10, wherein said mica is muscovite.

12. The disc roll according to claim 10, wherein said inorganic fiber is present in an amount of 5 to 40%

by weight based on the total weight of said disc members, and said clay is present in an amount of 5 to 55% by weight based on the total weight of said disc members.

13. The disc roll according to claim 10, wherein said mica is present in an amount of 5 to 60% by weight based on the total weight of the disc member.

14. A method for producing a disc roll, comprising the steps of:

forming into a plate form a slurry raw material to obtain a disc member base material, said slurry raw material comprising an inorganic fiber, mica and a clay containing particle components that have a particle size of 5 μm or larger in an amount of 30% by weight or less based on the weight of the clay;

stamping out a plurality of annular disc members each defining a hole and having a peripheral surface, from said disc member base material; and

fitting said plurality of annular disc members on a rotary shaft by insertion through the holes and fixing said disc members thereon to obtain a disc roll.

15. The method according to claim 14, wherein said formation of the disc member base material is conducted by a paper-making process.

16. A plate-shaped disc member base material comprising an inorganic fiber, mica and a clay having a content of particle components that have a particle size of 5 μm or larger of not higher than 30% by weight based on the weight of the clay.

17. The disc member base material according to claim 16, wherein said mica is muscovite.

18. The disc member base material according to claim 16, wherein said inorganic fiber is present in an amount of 5 to 40% by weight based on the weight of said disc member base material, and said clay is present in an amount of 5 to 55% by weight based on the weight of said disc member base material.

19. The disc member base material according to claim 16, wherein said mica is present in an amount of 5 to 60% by weight based on the weight of the disc member base material.